

# Lower Jackson Road Driveway Profile Discussion

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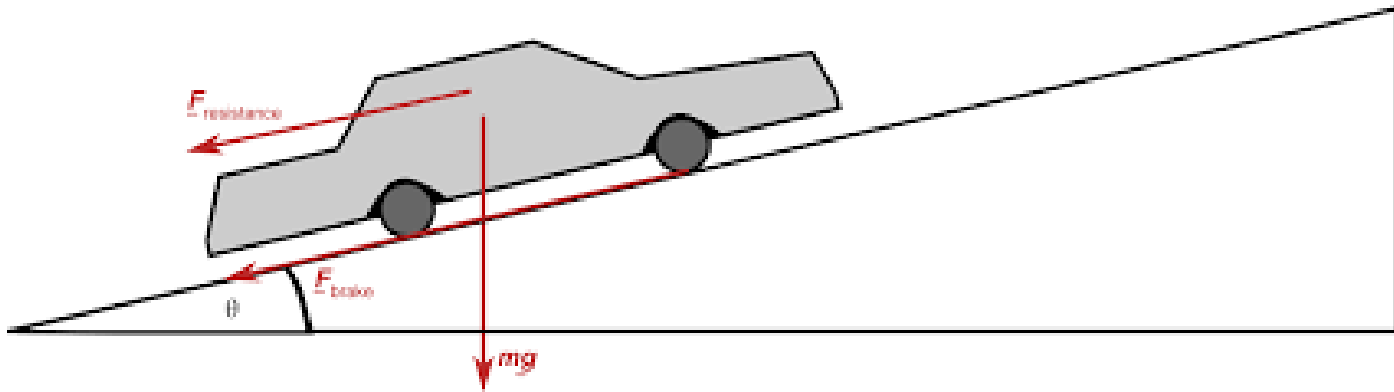
Infrastructure Committee

9/10/2018

# Can existing sidewalk be preserved?

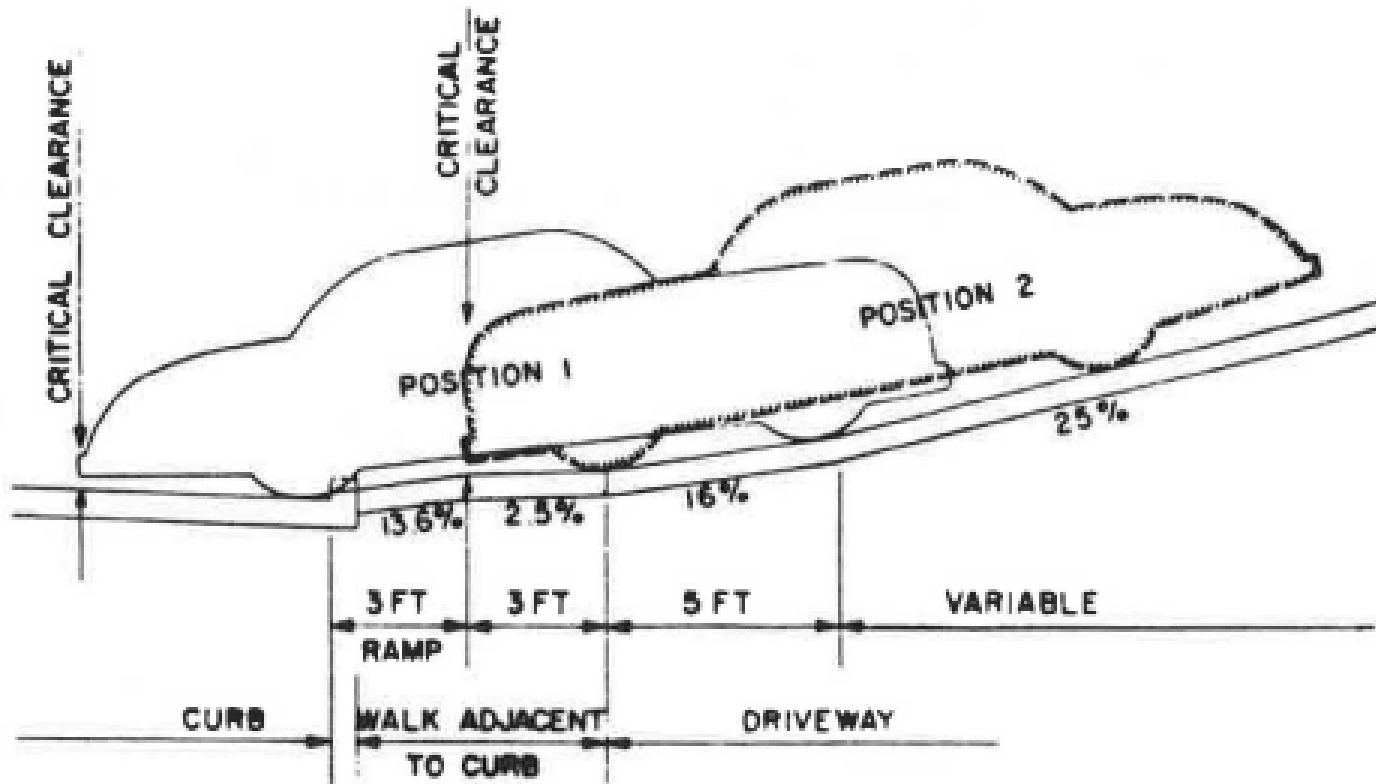
- Benefits
  - Maintain a grass strip between sidewalk and street
  - Save money by only replacing damaged sections of sidewalk
- Challenges
  - New street will be 2 feet wider on each side due to addition of curbs and gutters
  - New street will shift location to help blend with existing driveways and facilitate proper storm water drainage
    - Street centerline will shift 1 foot north (toward even side)
    - Street elevation will drop by as much as 1 foot
- Net result
  - Driveway aprons would have to be steeper to meet the existing sidewalk

# Constant Slope

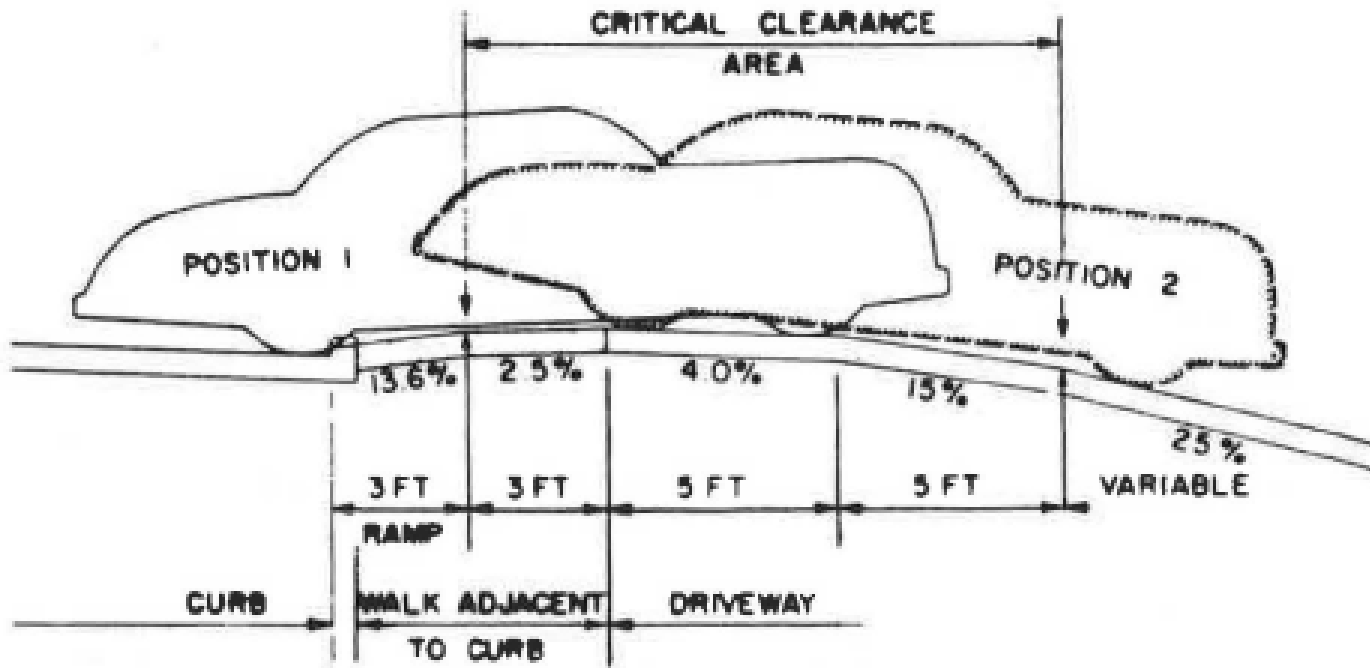


No vehicle clearance concerns  
with a constant slope

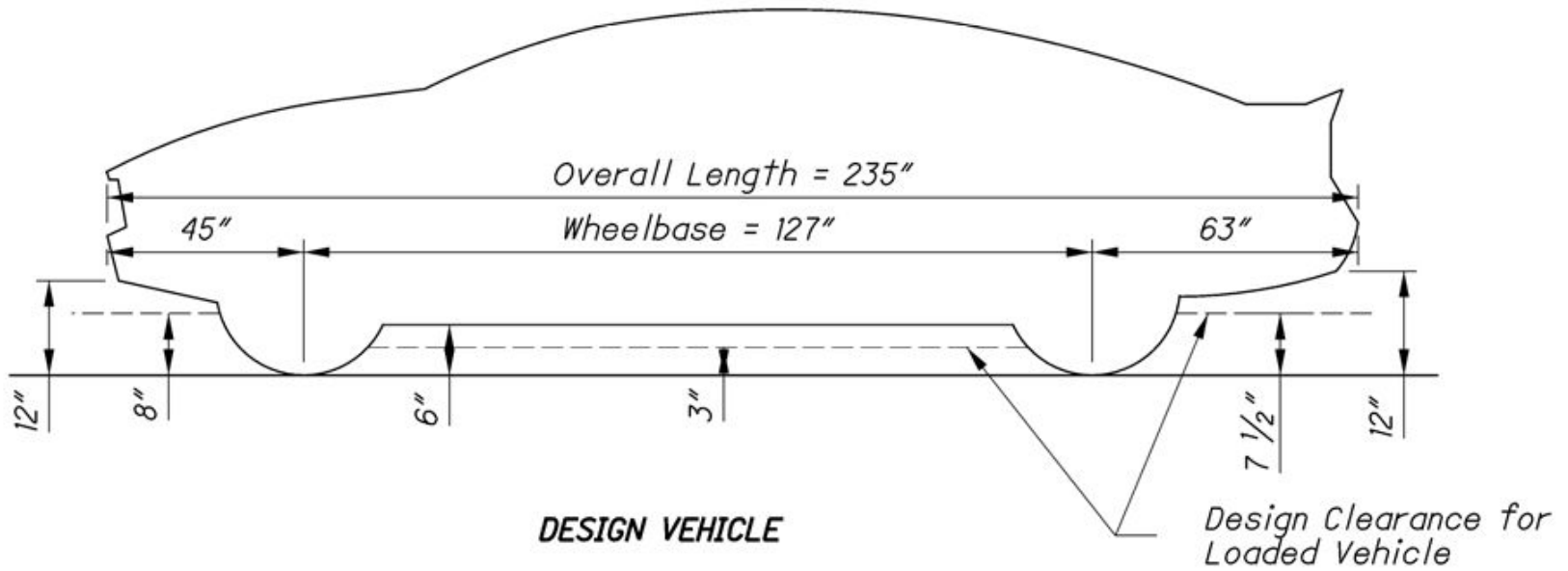
# Variable Slope – “Sag”



# Variable Slope – “Crest”



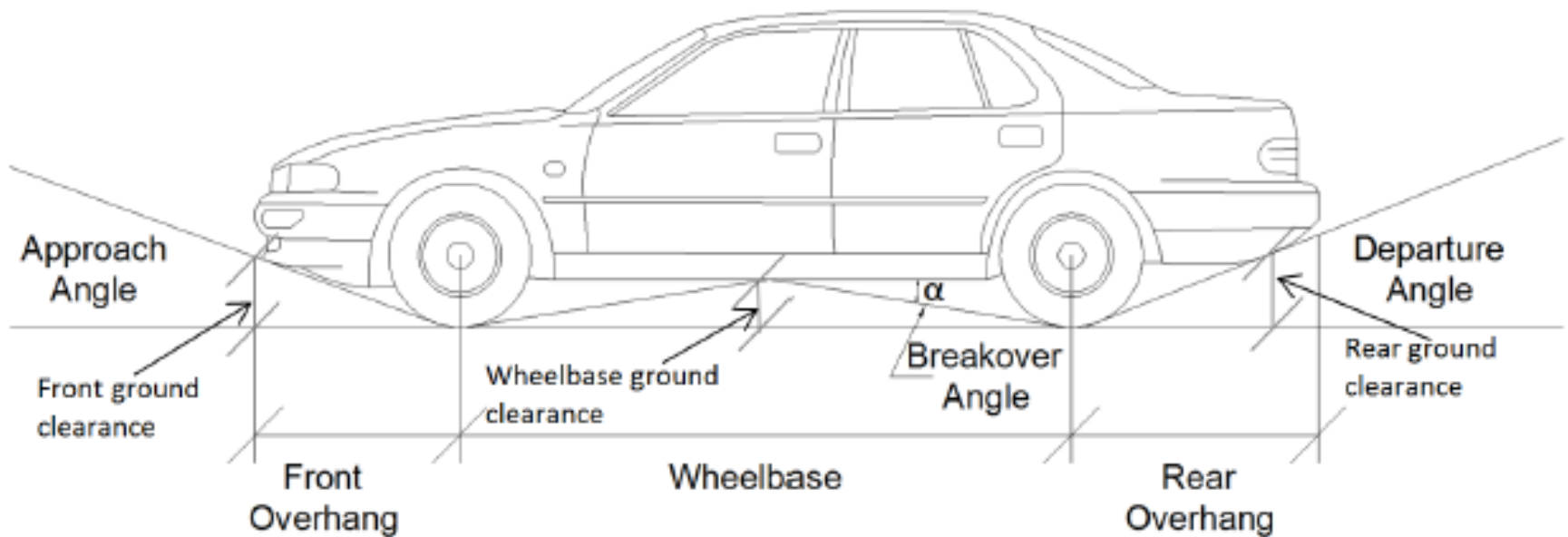
# Design Vehicle



Ground clearance affected by:

- Passenger/cargo load
- Tire inflation
- Suspension

# Vehicle Clearances

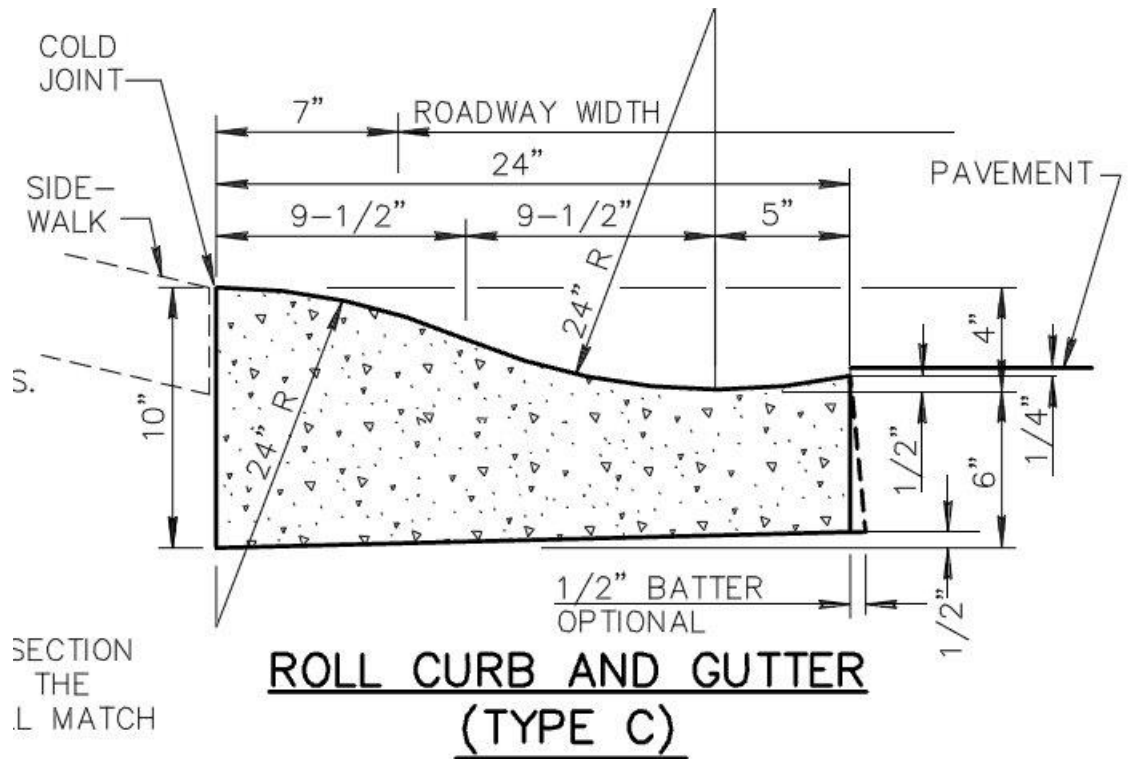


# Sample Ground Clearances

| <b>Vehicle</b>       | <b>Ground Clearance (in.)</b> |
|----------------------|-------------------------------|
| 2018 Honda Fit       | 5.0                           |
| 2019 Toyota Yaris    | 5.2                           |
| 2018 Hyundai Sonata  | 5.3                           |
| 2013 BMW 3-Series    | 5.5                           |
| 2019 VW Jetta        | 5.6                           |
| 2018 Toyota Camry    | 5.7                           |
| 2017 Honda Accord    | 5.8                           |
| 2016 Ford Fusion     | 5.9                           |
| 2018 Toyota RAV4     | 6.5                           |
| 2014 Nissan Rogue    | 7.4                           |
| 2017 Honda CR-V      | 8.7                           |
| 2018 Subaru Forester | 8.7                           |
| 2014 Jeep Wrangler   | 8.8                           |



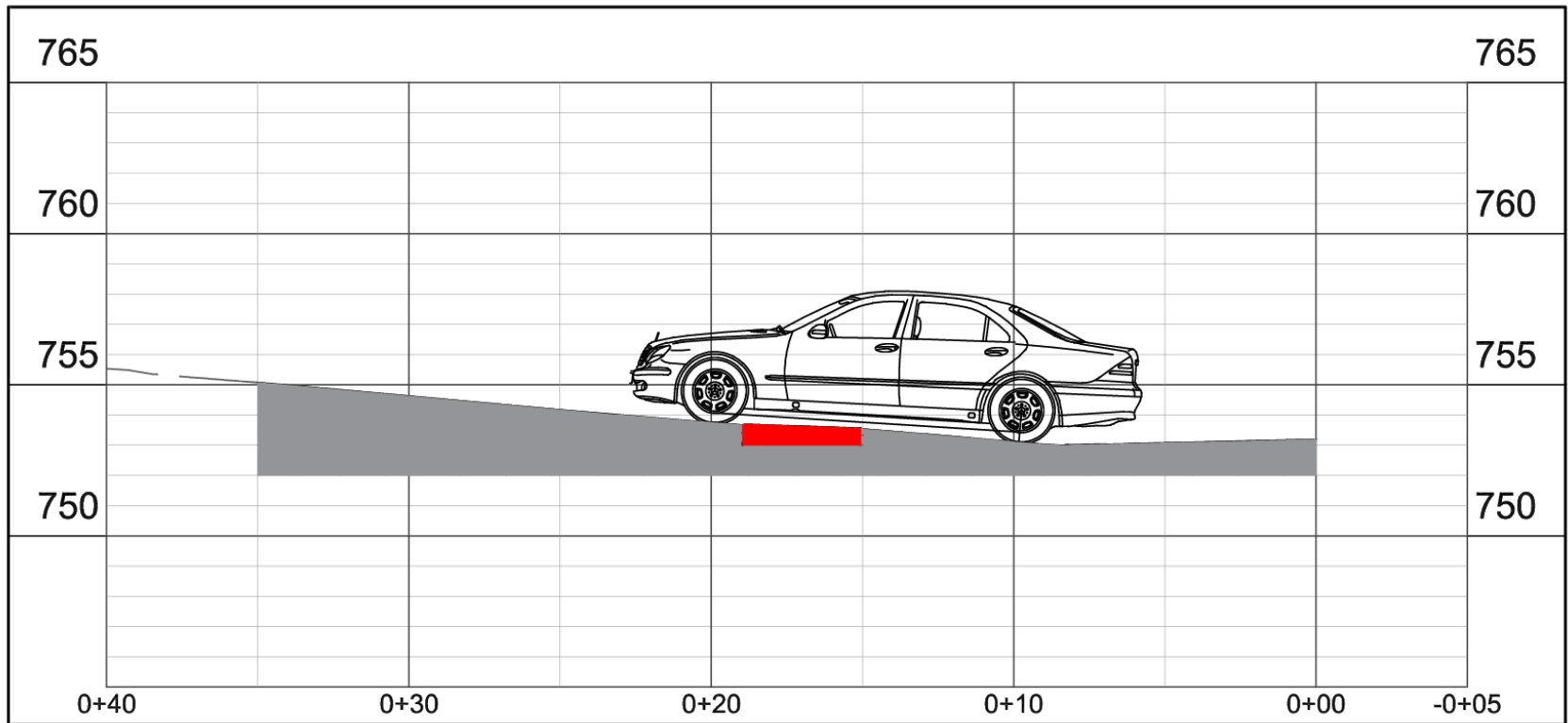
# Roll Curb Profile



For comparison, a **box curb with curb cut** has a 2 inch step up to the driveway

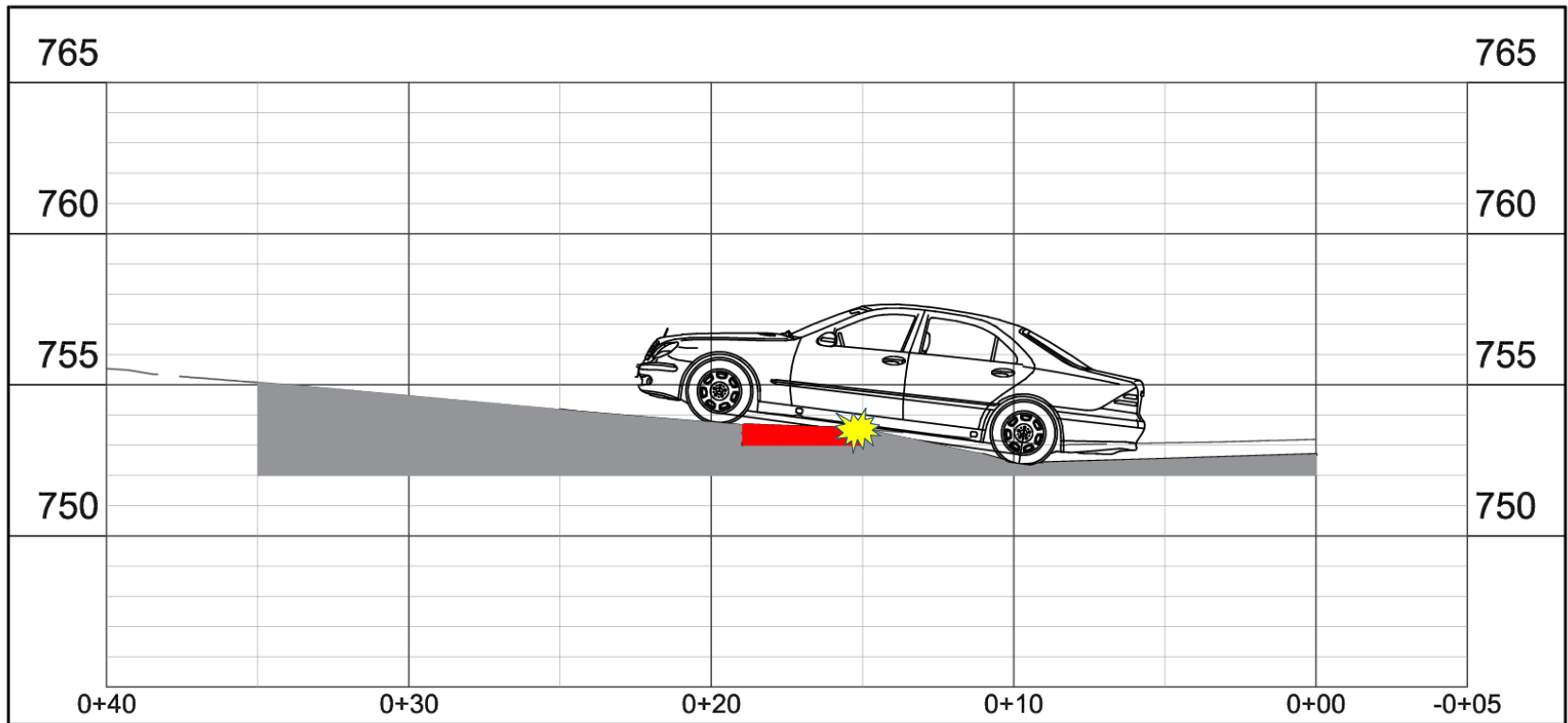
# Uphill Driveway

Current street design



# Uphill Driveway

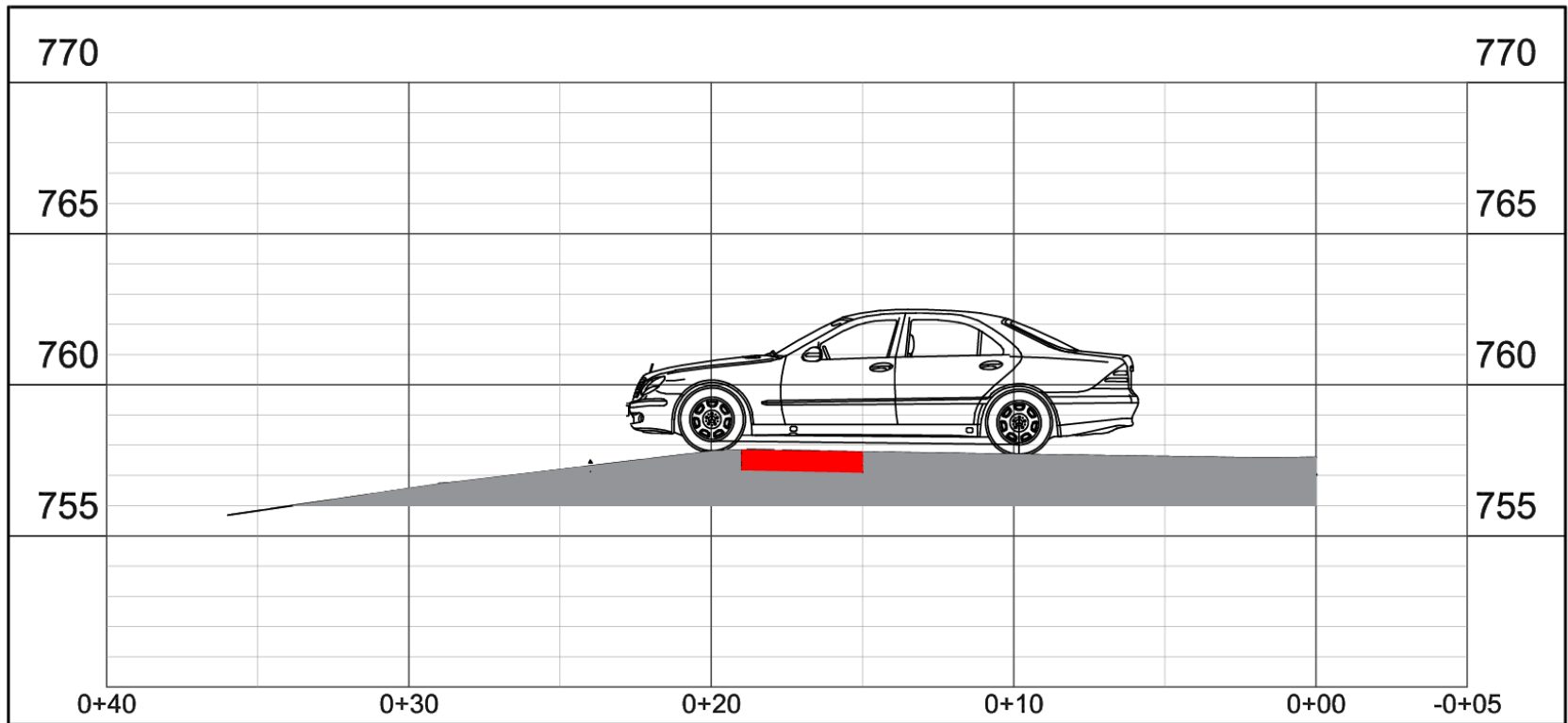
New street design



Street elevation drops 9 inches

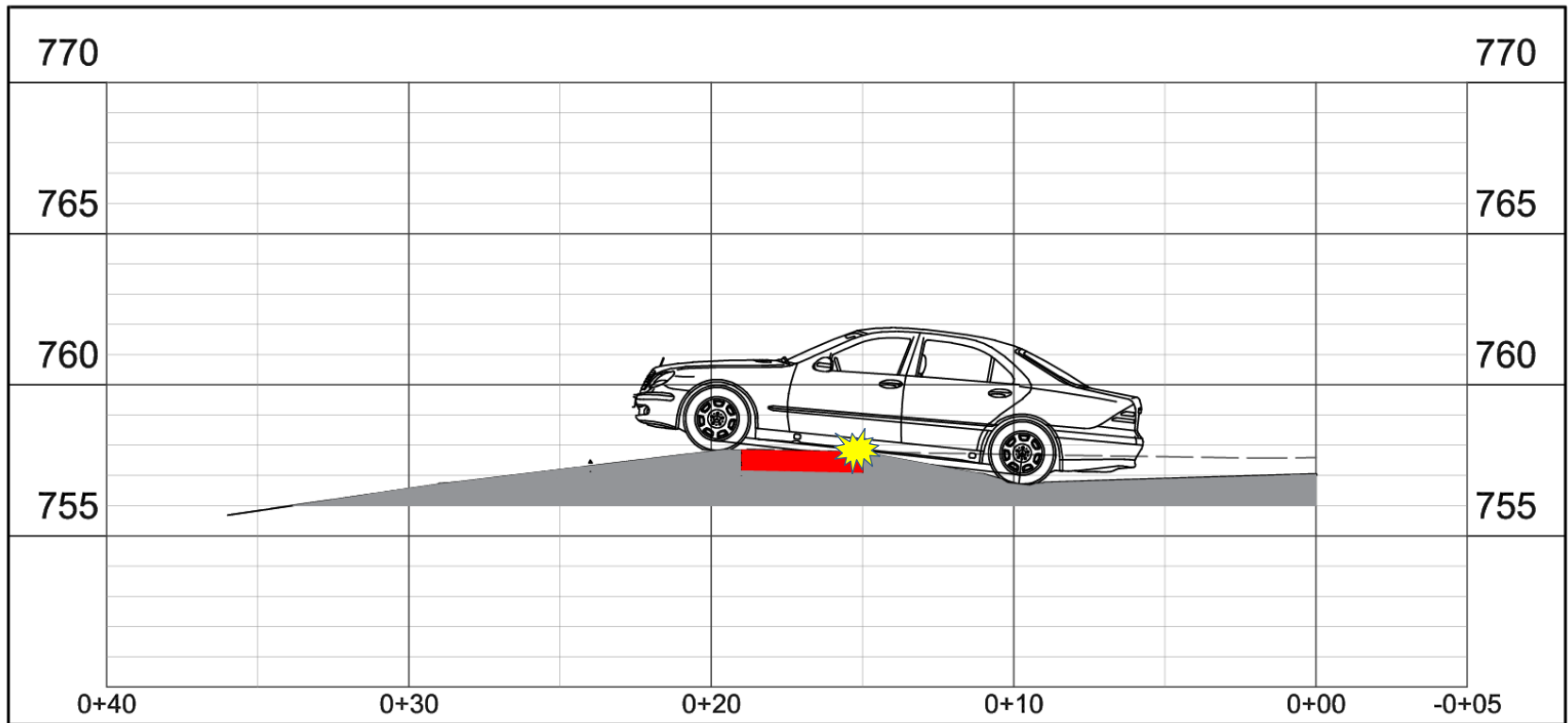
# Downhill Driveway

## Current street design



# Downhill Driveway

## New street design



Street elevation drops 12 inches

# Can existing sidewalk be preserved?

- Analysis
  - 9 driveways on north (even) side of street
    - **3 driveways will definitely experience vehicle dragging if existing sidewalk is kept in place**
    - 5 driveways will narrowly miss a drag condition, depending on vehicle size, loading, and speed
    - 1 driveway will not be affected

# Sidewalk Placement Options

1. Proposed: New sidewalk directly against curb
  2. Investigating: New sidewalk 4 feet from curb
    - City Engineer's office is evaluating this option
    - New sidewalk would be in same location as existing sidewalk, but at a different elevation
    - May require box curbs with curb cuts to keep slope transitions manageable
    - **More-extensive restoration required for driveways and stone walls**
- Street trees will be lost in either case